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THE  
**OFFICIAL UNITED STATES  
STANDARDS FOR GRAIN**

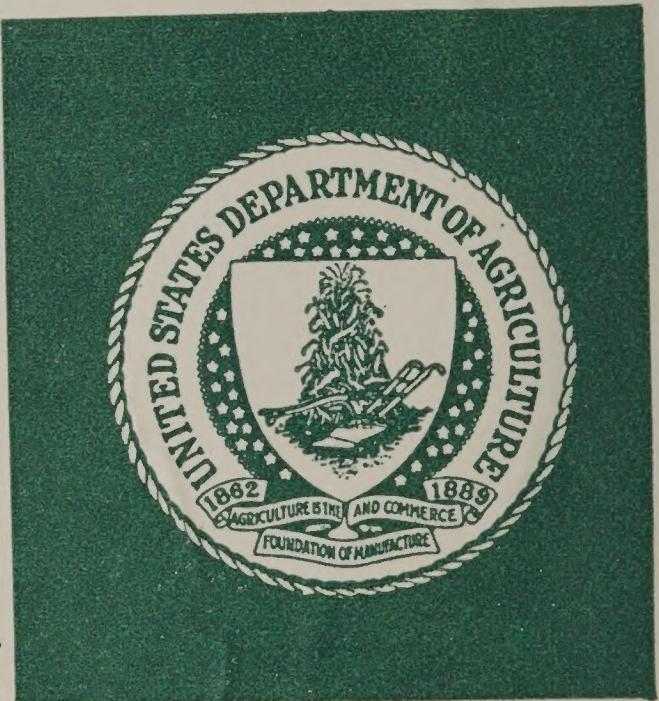


December 1975

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## FURTHER INFORMATION

For further information regarding the Official United States Standards for Grain, apply to the Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, D.C. 20250.

✓ Revised December 1, 1975

NOTE: Some factor percentages and test weights per bushel in these standards have been changed to read whole and tenths (e.g., 5.0). This editing provides uniformity in printing between different grains and reflects the desired degree of accuracy of the standards.

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# UNITED STATES STANDARDS FOR WHEAT<sup>1</sup>

## § 26.301 Terms defined

For the purposes of the United States Standards for Wheat, the terms specified in § 26.302 through § 26.312 shall have the meanings stated in said sections respectively.

## § 26.302 Wheat

Wheat shall be the grain of common wheat, club wheat, and durum wheat which, before the removal of the dockage, consists of 50 percent or more of one or more of these wheats and not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act and which, after the removal of the dockage, contains 50 percent or more of whole kernels of one or more of these wheats.

## § 26.303 Dockage

Dockage shall be weed seeds, weed stems, chaff, straw, grain other than wheat, sand, dirt, and any other material other than wheat, which can be removed readily from the wheat by the use of appropriate sieves and cleaning devices; also underdeveloped, shriveled, and small pieces of wheat kernels removed in properly separating the material other than wheat and which cannot be recovered by properly rescreening or recleaning. (See also § 26.315 and § 26.329.)

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<sup>1</sup>The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

**§ 26.304 Foreign material**

Foreign material shall be all matter other than wheat which is not separated from the wheat in the proper determination of dockage.

**§ 26.305 Other grains**

Other grains shall be rye, oats, corn, grain sorghum, barley, hull-less barley, flaxseed, emmer, spelt, einkorn, Polish wheat, poulard wheat, cultivated buckwheat, and soybeans.

**§ 26.306 Damaged kernels**

Damaged kernels shall be kernels and pieces of kernels of wheat and other grains which are heat damaged, sprouted, frosted, badly ground damaged, badly weather damaged, moldy, diseased, or otherwise materially damaged.

**§ 26.307 Heat-damaged kernels**

Heat-damaged kernels shall be kernels and pieces of kernels of wheat and other grains which have been materially discolored and damaged by heat.

**§ 26.308 Contrasting classes**

Contrasting classes shall be (a) Durum Wheat, Red Durum Wheat, and White Wheat in the classes Hard Red Spring Wheat and Hard Red Winter Wheat; (b) Hard Red Spring Wheat, Red Durum Wheat, Hard Red Winter Wheat, Soft Red Winter Wheat, and White Wheat in the class Durum Wheat; (c) Durum Wheat and Red Durum Wheat in the class Soft Red Winter Wheat; and (d) Durum Wheat, Red Durum Wheat, Hard Red Spring Wheat, and Hard Red Winter Wheat in the class White Wheat.

**§ 26.309 Shrunken and broken kernels**

Shrunken and broken kernels shall be all kernels and pieces of kernels of wheat and other matter that will pass readily through a  $0.064 \times \frac{3}{8}$  oblong hole sieve.

## § 26.310 0.064 x $\frac{3}{8}$ oblong hole sieve

A 0.064 x  $\frac{3}{8}$  oblong hole sieve shall be a metal sieve 0.0319 inch thick perforated with oblong holes 0.064 inch wide by  $\frac{3}{8}$  (0.375) inch long which are  $\frac{1}{8}$  (0.1250) inch from center to center and with 0.0525 inch end bridges. The perforations shall be staggered in relation to the adjacent rows.

## § 26.311 Stones

Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

## § 26.312 Defects

Defects shall include damaged kernels, foreign material, and shrunken and broken kernels.

## § 26.313 Principles governing application of standards

The principles stated in § 26.314 through § 26.317 shall apply in the determination of the classes and grades of wheat.

## § 26.314 Basis of determination

- \* Each determination of dockage, moisture, temperature,
- \* odor, garlic, live weevils or other insects injurious to
- \* stored grain, crotalaria seeds, large stones, castor beans,
- \* broken glass, animal filth, an unknown foreign substance,
- \* a commonly recognized harmful or toxic substance, and
- \* otherwise distinctly low quality shall be upon the basis
- \* of the grain as a whole. All other determinations shall
- \* be upon the basis of the grain when free from dockage.

## § 26.315 Percentages

All percentages shall be upon the basis of weight. Percentages except for dockage shall be expressed in whole and tenth percent to the nearest tenth of a percent. The percentage of dockage when equal to one-half percent or more shall be stated in terms of half percent, whole percent, or whole and half percent, as the case may be, with other fractions disregarded as shown in the following examples: Dockage ranging from 0.5 to 0.9 percent shall be expressed as 0.5 percent, from 1.0 to 1.4 percent as 1.0 percent, from 1.5 to 1.9 percent as 1.5 percent, etc.

**§ 26.316 Moisture**

Moisture shall be ascertained by use of the equipment and procedure prescribed by the Agricultural Marketing Service, United States Department of Agriculture. (Information thereon may be obtained from said Service.)

**§ 26.317 Test weight per bushel**

Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the United States Department of Agriculture, as described in Circular No. 921 issued June 1953. Test weight per bushel shall be expressed to the nearest tenth of a pound.

**§ 26.318 Classes**

Wheat shall be divided into the following seven classes: Hard Red Spring Wheat, Durum Wheat, Red Durum Wheat, Hard Red Winter Wheat, Soft Red Winter Wheat, White Wheat, and Mixed Wheat.

**§ 26.319 Hard Red Spring Wheat**

The class Hard Red Spring Wheat shall include all varieties of hard red spring wheat. This class shall be divided into the following three subclasses:

(a) **Dark Northern Spring Wheat.** The subclass Dark Northern Spring Wheat shall be Hard Red Spring Wheat with 75 percent or more of dark, hard, and vitreous kernels.

(b) **Northern Spring Wheat.** The subclass Northern Spring Wheat shall be Hard Red Spring Wheat with 25.0 percent or more but less than 75 percent of dark, hard, and vitreous kernels.

(c) **Red Spring Wheat.** The subclass Red Spring Wheat shall be Hard Red Spring Wheat with less than 25.0 percent of dark, hard, and vitreous kernels.

## § 26.320 Durum Wheat

The class Durum Wheat shall include all varieties of white (amber) Durum Wheat. This class shall be divided into the following three subclasses:

(a) **Hard Amber Durum Wheat.** The subclass Hard Amber Durum Wheat shall be Durum Wheat with 75 percent or more of hard and vitreous kernels of amber color.

(b) **Amber Durum Wheat.** The subclass Amber Durum Wheat shall be Durum Wheat with 60 percent or more but less than 75 percent of hard and vitreous kernels of amber color.

(c) **Durum Wheat.** The subclass Durum Wheat shall be Durum Wheat with less than 60 percent of hard and vitreous kernels of amber color.

## § 26.321 Red Durum Wheat

The class Red Durum Wheat shall include all varieties of red durum wheat. There are no subclasses in this class.

## § 26.322 Hard Red Winter Wheat

The class Hard Red Winter Wheat shall include all varieties of hard red winter wheat. This class shall be divided into the following three subclasses:

(a) **Dark Hard Winter Wheat.** The subclass Dark Hard Winter Wheat shall be Hard Red Winter Wheat with 75 percent or more of dark, hard, and vitreous kernels.

(b) **Hard Winter Wheat.** The subclass Hard Winter Wheat shall be Hard Red Winter Wheat with 40 percent or more but less than 75 percent of dark, hard, and vitreous kernels.

(c) **Yellow Hard Winter Wheat.** The subclass Yellow Hard Winter Wheat shall be Hard Red Winter Wheat with less than 40 percent of dark, hard, and vitreous kernels.

## § 26.323 Soft Red Winter Wheat

The class Soft Red Winter Wheat shall include all varieties of soft red winter wheat. There are no subclasses in this class.

## § 26.324 White Wheat

The class White Wheat shall include all varieties of white wheat. This class shall be divided into the following four subclasses:

(a) **Hard White Wheat.** The subclass Hard White Wheat shall be White Wheat with 75 percent or more of hard kernels and may contain not more than 10.0 percent of wheat of the white club varieties.

(b) **Soft White Wheat.** The subclass Soft White Wheat shall be White Wheat with less than 75 percent of hard kernels and may contain not more than 10.0 percent of wheat of the white club varieties.

(c) **White Club Wheat.** The subclass White Club Wheat shall be White Wheat consisting of wheat of the white club varieties and may contain not more than 10.0 percent of other white wheat.

(d) **Western White Wheat.** The subclass Western White Wheat shall be White Wheat containing more than 10.0 percent of wheat of the white club varieties and more than 10.0 percent of other white wheat.

## § 26.325 Mixed Wheat

The class Mixed Wheat shall be any mixture of wheat which consists of one of the following:

(a) Two or more classes each of which constitutes more than 10.0 percent of the mixture; or

(b) One class that constitutes more than 10.0 per cent and two or more other classes in combination that exceed 10.0 percent of the mixture; or

(c) Several classes none of which constitutes 10.0 percent or more of the mixture but which combined meet the definition for wheat.

## § 26.326 Grades

Grades shall be the U.S. numerical grades, U.S. Sample grade, and special grades provided for in §§ 26.327 and 26.328.

**§ 26.327 Grades and grade requirements**

**Wheat**

(a) Grade and grade requirements for all classes of Wheat except Mixed Wheat. (See also § 26.328.)

Grade	Minimum test weight per bushel		Maximum limits of—				Wheat of other classes <sup>1</sup>				
	Hard Red Spring Wheat or White Club Wheat	All other classes and sub-classes	Heat-damaged kernels	Damaged kernels (total)	Foreign material	Shrunken and broken kernels		Defects (total)	Con-trasting classes	Wheat of other classes (total)	Percent
U.S. No. 1-----	58.0	60.0	Percent 0.1	Percent 2.0	Percent 0.5	Percent 3.0	Percent 3.0	Percent 3.0	Percent 1.0	Percent 3.0	Percent 3.0
U.S. No. 2-----	57.0	58.0	.2	4.0	1.0	5.0	5.0	5.0	2.0	5.0	5.0
U.S. No. 3-----	55.0	56.0	.5	7.0	2.0	8.0	8.0	8.0	3.0	10.0	10.0
U.S. No. 4-----	53.0	54.0	1.0	10.0	3.0	12.0	12.0	12.0	10.0	10.0	10.0
U.S. No. 5-----	50.0	51.0	3.0	15.0	5.0	20.0	20.0	20.0	10.0	10.0	10.0
U.S. Sample grade.	U.S. Sample grade shall be wheat which does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive; or which contains more than two crotalaria seeds ( <i>Crotalaria spp.</i> ) in 1,000 grams of grain, or contains castor beans ( <i>Ricinus communis</i> ), stones, broken glass, animal filth, an unknown foreign substance(s), or a commonly recognized harmful or toxic substance(s); or which is musty, sour, or heating; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.										

<sup>1</sup> Red Durum Wheat of any grade may contain not more than 10.0 percent of wheat of other classes.

(b) **Grades and grade requirements for Mixed Wheat.** (See also § 26.328.) Mixed Wheat shall be graded according to the U.S. numerical and U.S. Sample grade requirements of the class of wheat which predominates in the mixture, except that the factor "wheat of other classes" shall be disregarded.

## § 26.328 Special grades, special grade requirements, and special grade designations

(a) **Tough wheat—(1) Requirements.** Tough wheat shall be wheat which contains more than 13.5 percent of moisture.

(2) **Grade designation.** Tough wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not tough, and there shall be added to and made a part of the grade designation the word "Tough."

(b) **Smutty wheat—(1) Requirements.** Smutty wheat shall be wheat which has an unmistakable odor of smut or which contains balls, portions of balls, or spores, of smut in a quantity equivalent to more than 14 balls of average size in 250 grams of wheat.

(2) **Grade designation.** Smutty wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not smutty; and

(i) In the case of smutty wheat which has an unmistakable odor of smut, or which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 14 balls but not in excess of a quantity equal to 30 balls of average size in 250 grams of wheat, there shall be added to and made a part of the grade designation the words "Light Smutty"; and

(ii) In the case of smutty wheat which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 30 balls of average size in 250 grams of wheat, there shall be added to and made a part of the grade designation the word "Smutty."

(c) **Garlicky wheat—(1) Requirements.** Garlicky wheat shall be wheat which contains two or more green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of wheat.

(2) **Grade designation.** Garlicky wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not garlicky; and

(i) In the case of garlicky wheat which contains two or more but not more than six green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of wheat, there shall be added to and made a part of the grade designation the words "Light Garlicky"; and

(ii) In the case of garlicky wheat which contains more than six green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of wheat, there shall be added to and made a part of the grade designation the word "Garlicky."

(d) **Weevily wheat—(1) Requirements.** Weevily wheat shall be wheat which is infested with live weevils or other insects injurious to stored grain.

(2) **Grade designation.** Weevily wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not weevily, and there shall be added to and made a part of the grade designation the word "Weevily."

(e) **Ergoty wheat—(1) Requirements.** Ergoty wheat shall be wheat which contains more than 0.3 percent of ergot.

(2) **Grade designation.** Ergoty wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not ergoty, and there shall be added to and made a part of the grade designation the word "Ergoty."

(f) **Treated wheat—(1) Requirements.** Treated wheat shall be wheat which has been scoured, limed, washed, sulfured, or treated in such a manner that the true quality is not reflected by either the U.S. numerical grade or the U.S. Sample grade designation alone.

(2) **Grade designation.** Treated wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not treated, and there shall be added to and made a part of the grade designation a statement indicating the kind of treatment.

(g) **Heavy wheat—(1) Requirements.** Heavy wheat shall be (i) Hard Red Spring Wheat of grade U.S. No. 1, U.S. No. 2, or U.S. No. 3 which has a test weight per bushel of 60 pounds or more, or (ii) any other class of wheat of grade U.S. No. 1, U.S. No. 2, or U.S. No. 3 which has a test weight per bushel of 62 pounds or more.

(2) **Grade designation.** Heavy wheat shall be graded and designated according to the grade requirements of the standards applicable to such wheat if it were not heavy, and there shall be added to and made a part of the grade designation preceding the name of the class or subclass, as the case may be, the word "Heavy."

### § 26.329 Grade designations for wheat

(See also § 26.328.) The grade designations for wheat shall include the letters "U.S."; the number of the grade or the words "Sample grade", as the case may be; the name of the applicable subclass, or in the case of Red Durum Wheat, Soft Red Winter Wheat, and Mixed Wheat, the name of the class; the name of each applicable special grade; and when applicable the word "dockage" together with the percentage thereof. In the case of Western White Wheat, the grade designation shall also include, following the name of the subclass, the name and percentage of white club wheat and other white wheat in the mixture. In the case of Mixed Wheat, the grade designation shall also include, following the name of the class, the name and percentage of Hard Red Spring, Durum, Red Durum, Hard Red Winter, Soft Red Winter, and White Wheat, if any, contained in the mixture.

# UNITED STATES STANDARDS FOR CORN<sup>1</sup>

## § 26.351 Terms defined

For the purposes of the United States Standards for Corn (Maize) :

(a) **Corn.** Corn shall be any grain which consists of 50 percent or more of whole kernels of shelled dent corn and/or shelled flint corn (*Zea mays*) and may contain not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act.

(b) **Classes.** Corn shall be divided into the following three classes: Yellow Corn, White Corn, and Mixed Corn.

(c) **Yellow Corn.** The class Yellow Corn shall be yellow-kerneled corn and may contain not more than 5.0 percent of corn of other colors. Yellow kernels of corn with a slight tinge of red shall be considered as yellow corn.

(d) **White Corn.** The class White Corn shall be white-kerneled corn and may contain not more than 2.0 percent of corn of other colors. White kernels of corn with a slight tinge of light straw or pink color shall be considered as white corn.

(e) **Mixed Corn.** The class Mixed Corn shall be corn which does not meet the color requirements for either of the classes Yellow Corn or White Corn and shall include white-capped yellow corn.

(f) **Grades.** Grades shall be the U.S. numerical grades, U.S. Sample grade, and special grades provided for in § 26.353.

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<sup>1</sup> The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

(g) **Broken corn and foreign material.** Broken corn and foreign material shall be kernels and pieces of kernels of corn and all matter other than corn which will pass readily through a 12/64 sieve, and all matter other than corn which remains in the sieved sample.

(h) **Damaged kernels.** Damaged kernels shall be kernels and pieces of kernels of corn which are heat damaged, sprouted, frosted, badly ground damaged, badly weather damaged, moldy, diseased, or otherwise materially damaged.

(i) **Heat-damaged kernels.** Heat-damaged kernels shall be kernels and pieces of kernels of corn which have been materially discolored and damaged by heat.

(j) **12/64 sieve.** A 12/64 sieve shall be an aluminum sieve 0.0319 inch thick perforated with round holes 0.1875 (12/64) inch in diameter which are  $\frac{1}{4}$  inch from center to center. The perforations of each row shall be staggered in relation to the adjacent row.

(k) **Stones.** Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

## § 26.352 Principles governing the application of the standards

The following principles shall apply in the determination of the classes and grades of corn:

(a) **Basis of determination.** Each determination of class, damaged kernels, heat-damaged kernels, flint corn, and flint and dent corn shall be upon the basis of the grain after the removal of the broken corn and foreign material. All other determinations shall be upon the basis of the grain as a whole.

(b) **Percentages.** All percentages shall be determined upon the basis of weight.

(c) **Moisture.** Moisture shall be ascertained by the air-oven method for corn prescribed by the United States Department of Agriculture as described in Service and Regulatory Announcements No. 147 (1959 Revision) of the Agricultural Marketing Service, or ascertained by any method which gives equivalent results.

(d) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the United States Department of Agriculture as described in Circular No. 921, issued June 1953, or as determined by any method which gives equivalent results.

## § 26.353 Grades, grade requirements, and grade designations

The following grades, grade requirements, and grade designations are applicable under these standards:

### Corn

(a) **Grades and grade requirements for Corn. (See also paragraph (c) of this section.)**

Grade	Maximum limits of—				
	Minimum test weight per bushel	Moisture	Broken corn and foreign material	Damaged kernels	
	Pounds	Percent	Percent	Total	Heat-damaged kernels
U.S. No. 1-----	56.0	14.0	2.0	3.0	0.1
U.S. No. 2-----	54.0	15.5	3.0	5.0	.2
U.S. No. 3-----	52.0	17.5	4.0	7.0	.5
U.S. No. 4-----	49.0	20.0	5.0	10.0	1.0
U.S. No. 5-----	46.0	23.0	7.0	15.0	3.0
U.S. Sample grade.	U.S. Sample grade shall be corn which does not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 5, inclusive; or which contains stones; or which is musty, or sour, or heating; or which has any commercially objectionable foreign odor; or which is otherwise of distinctly low quality.				

## Grade designations

(b) **Grade designations for corn.** The grade designations for corn shall include, in the order named, the letters "U.S."; the number of the grade or the words "Sample grade," as the case may be; the name of the applicable class; and the name of each applicable special grade.

## Special grades for corn

(c) **Special grades, special grade requirements, and special grade designations for corn.**

(1) **Flint Corn—(i) Requirements.** Flint corn shall be corn of any class which consists of 95 percent or more of flint corn.

(ii) **Grade designation.** Flint corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not flint, and there shall be added to and made a part of the grade designation, immediately following the class name, the word "Flint."

(2) **Flint and dent corn—(i) Requirements.** Flint and dent corn shall be corn of any class which consists of a mixture of flint and dent corn containing more than 5.0 percent but less than 95 percent of flint corn.

(ii) **Grade designation.** Flint and dent corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not flint and dent, and there shall be added to and made a part of the grade designation, immediately following the class name, the words "Flint and Dent" and the approximate percentage of flint corn.

(3) **Weevily corn—(i) Requirements.** Weevily corn shall be corn which is infested with live weevils or other insects injurious to stored grain.

(ii) **Grade designation.** Weevily corn shall be graded and designated according to the grade requirements of the standards applicable to such corn if it were not weevily, and there shall be added to and made a part of the grade designation the word "Weevily."

### Interpretations [Added]

#### § 26.901 Interpretation with respect to the term “distinctly low quality”

The term “distinctly low quality,” when used in the United States Standards for Grain shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.

#### § 26.904 Interpretation with respect to the term “yellow kernels of corn with a slight tinge of red.”

The term “yellow kernels of corn with a slight tinge of red,” when used in the United States Standards for Corn (see § 26.351(c)) shall be construed to include kernels which are yellow and/or light red in color, and kernels which are yellow and dark red in color provided the dark red color covers less than 50 percent of the kernel. Yellow and dark red kernels in which the dark red color covers 50 percent or more of the kernel shall be considered as “corn of other colors.”

#### § 26.905 Interpretation with respect to the term “white kernels of corn with a slight tinge of light straw or pink color.”

The term “white kernels of corn with a slight tinge of light straw or pink color,” when used in the United States Standards for Corn (see § 26.351(d)) shall be construed to include kernels which are white and/or light straw or light pink in color, and kernels which are white and pink in color provided the pink color covers less than 50 percent of the kernel. White and pink kernels in which the pink color covers 50 percent or more of the kernel shall be considered as “corn of other colors.”



# UNITED STATES STANDARDS FOR BARLEY<sup>1</sup>

## § 26.201 Terms defined

For the purposes of the United States Standards for Barley:

(a) **Barley.** Barley shall be any grain which, before the removal of dockage, consists of 50 percent or more of barley, and may contain not more than 25.0 percent of other grains for which standards have been established under the United States Grain Standards Act. The term "barley" as used in these standards shall not include hull-less barley.

(b) **Classes.** Barley shall be divided into the following three classes: Barley, Western Barley, and Mixed Barley.

(c) **Barley.** The class Barley shall be any barley with white hulls which is grown east of the Rocky Mountains or in Alaska and may include not more than 10.0 percent of black barley or of barley of the class Western Barley, either singly or in any combination. This class shall be divided into the following three subclasses:

(1) **Malting Barley.** The subclass Malting Barley shall be six-rowed barley of the class Barley which has 90 percent or more of the kernels with white aleurone layers; which is not semisteely in mass; which after the removal of dockage, contains not more than 5.0 percent of the two-rowed and/or other types or varieties of barley unsuitable for malting (such as Trebi'), 4.0 percent damaged kernels, 3.0 percent

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<sup>1</sup> The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

foreign material, 8.0 percent skinned and broken kernels, 15.0 percent thin barley, 2.0 percent black barley, and 5.0 percent other grains; which has a minimum test weight per bushel of 43 pounds; which contains a minimum of 90 percent sound barley; which does not contain barley injured by frost or heat; and which is not smutty, garlicky, weevily, ergoty, or bleached; and which otherwise meets the requirements of grades U.S. Nos. 1 to 3, inclusive, of the subclass Barley.

(2) **Blue Malting Barley.** The subclass Blue Malting Barley shall be six-rowed barley of the class Barley which has 90 percent or more of the kernels with blue aleurone layers, and which otherwise meets the requirements of the subclass Malting Barley.

(3) **Barley.** The subclass Barley shall be any barley of the class Barley which does not meet the requirements of the subclass Malting Barley, or Blue Malting Barley.

(d) **Western Barley.** The class Western Barley shall be any barley with white hulls which is grown west of the Great Plains area of the United States and may include not more than 10.0 percent of black barley or of barley of the class Barley, either singly or in any combination, except that barley grown in the State of Alaska shall not be classified as Western Barley. (See paragraph (e) of this section.)

(e) **Mixed Barley.** The class Mixed Barley shall be any mixture of barley which does not meet the requirements of the classes Barley or Western Barley. Black barley shall be classified as Mixed Barley.

(f) **Grades.** Grades shall be the U.S. numerical grades, U.S. Sample grade, and special grades provided for in § 26.203.

(g) **Dockage.** Dockage shall be weed seeds, weed stems, chaff, straw, grain other than barley, sand, dirt, and any material other than barley which can be removed readily from the barley by the use of appropriate sieves and cleaning devices; also under-developed, shriveled, and small pieces of barley kernels removed in properly separating the material other than barley and which cannot be recovered by properly rescreening or recleaning.

**(h) Sound barley.** Sound barley shall be kernels and pieces of kernels of barley remaining after the removal of dockage, which are not damaged or materially discolored by blight and/or mold, which are not heat damaged, sprouted, malted, frosted, badly ground damaged, badly weather damaged, or otherwise materially damaged.

**(i) Damaged kernels.** Damaged kernels shall be kernels and pieces of kernels of barley, other grains, and wild oats which are damaged or materially discolored by blight and/or mold, or which are heat damaged, sprouted, malted, frosted, badly ground damaged, badly weather damaged, or otherwise materially damaged.

**(j) Heat-damaged kernels.** Heat-damaged kernels shall be kernels and pieces of kernels of barley, other grains, and wild oats, which have been materially discolored and damaged by heat.

**(k) Foreign material.** Foreign material shall be all matter other than barley, other grains, and wild oats, which is not separated from the barley in the proper determination of dockage.

**(l) Other grains.** Other grains shall be wheat, rye, oats, corn, grain sorghum, hull-less barley, flaxseed, emmer, spelt, einkorn, Polish wheat, poulard wheat, cultivated buckwheat, and soybeans.

**(m) Wild oats.** Wild oats shall be seeds of *Avena fatua* and *A. sterilis*.

**(n) Wild brome grasses.** Wild brome grasses shall be the seeds of brome grasses such as *Bromus rigidus* which have harsh awns and which are injurious when fed to livestock.

**(o) Broken kernels.** Broken kernels shall be pieces of barley kernels.

**(p) Skinned kernels.** Skinned kernels shall be any barley kernels from which one-third or more of the hull has been removed, or which has the hull loosened or removed over the germ.

**(q) Black barley.** Black barley shall be barley with black hulls.

**(r) Thin barley.** (1) Thin barley in the class Barley shall be barley and other matter that will pass readily through a  $5/64 \times 3/4$  sieve.

(2) Thin barley in the class Western Barley shall be barley and other matter that will pass readily through a  $5\frac{1}{2}/64$  x  $3/4$  sieve.

(s) **Stones.** Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

(t)  **$5/64$  by  $3/4$  sieve.** A  $5/64$  by  $3/4$  sieve shall be a metal sieve 0.032 inch thick perforated with slotted perforations 0.0781 ( $5/64$ ) by 0.750 ( $3/4$ ) inch with approximately 865 perforations per square foot.

(u)  **$5\frac{1}{2}/64$  by  $3/4$  sieve.** A  $5\frac{1}{2}/64$  x  $3/4$  sieve shall be a metal sieve 0.032 inch thick perforated with slotted perforations 0.0858 ( $5\frac{1}{2}/64$ ) inch by 0.750 ( $3/4$ ) inch with approximately 856 perforations per square foot.

## § 26.202 Principles covering the application of the standards

The following principles shall apply in the determination of the classes and grades of barley:

(a) **Basis of determination.** Each determination of dockage, temperature, odor, garlic, live weevils or other insects injurious to stored grain, and distinctly low quality shall be upon the basis of the grain as a whole. Each determination of heat-damaged kernels and of white aleurone layers in Malting Barley and blue aleurone layers in Blue Malting Barley shall be upon the basis of the pearled dockage-free grain. All other determinations shall be upon the basis of the grain when free from dockage.

(b) **Percentages.** All percentages shall be upon the basis of weight.

(c) **Moisture.** Moisture shall be ascertained by the air-oven method prescribed by the United States Department of Agriculture, as described in Service and Regulatory Announcement No. 147, issued by the Agricultural Marketing Service, or ascertained by any method which gives equivalent results.

(d) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the United States Department of Agriculture, as described in Circular 921 issued June 1953, or as determined by any method which gives equivalent results.

## § 26.203 Grades, grade requirements, and grade designations

The following grades, grade requirements, and grade designations are applicable under these standards:

### Barley

(a) Grades and grade requirements for the subclass Barley of the class Barley. (See also paragraph (g) of this section.)

Grade	Minimum limits of—		Maximum limits of—				Percent Black barley
	Test weight per bushel	Sound barley	Total damaged kernels	Heat- damaged kernels	Foreign material	Broken kernels	
U.S. No. 1	47.0	97.0	Percent	Percent	Percent	Percent	Percent
U.S. No. 2	45.0	94.0	2.0	0.2	2.0	5.0	10.0
U.S. No. 3	43.0	90.0	4.0	.3	2.0	10.0	15.0
U.S. No. 4 <sup>1</sup>	40.0	85.0	6.0	.5	3.0	15.0	25.0
U.S. No. 5	36.0	70.0	Percent	Percent	Percent	Percent	Percent
U.S. Sample grade	10.0	3.0	1.0	4.0	4.0	20.0	35.0
				6.0	6.0	30.0	75.0

U.S. Sample grade shall include barley of the class Barley, which does not come within the grade requirements of any of the grades from U.S. No. 1 to U.S. No. 5, inclusive; or which contains more than 16.0 percent of moisture; or which contain stones; or which is musty, or sour, or heating; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.

**Barley (Malting Barley and Blue Malting Barley)**

**(b) Grades and grade requirements for the subclasses Malting Barley and Blue Malting Barley of the class Barley. (See also paragraph (g) of this section.)**

Grade	Minimum limits of—			Maximum limits of—			
	Test weight per bushel	Sound barley	Damaged kernels	Foreign material	Skinned and broken kernels	Black barley	Other grains
Pounds	Percent	Percent	Percent	Percent	Percent	Percent	Percent
47.0	97.0	2.0	1.0	4.0	7.0	0.5	2.0
45.0	94.0	3.0	2.0	6.0	10.0	1.0	3.0
43.0	90.0	4.0	3.0	8.0	15.0	2.0	5.0

**NOTE:** Barley of the class Barley which does not meet the requirements of any of the grades U.S. No. 1 to U.S. No. 3, inclusive, for the subclasses Malting Barley and Blue Malting Barley shall be classified and graded according to the grade requirements for the subclass Barley.

## Western Barley

(c) **Grades and grade requirements for Western Barley.**  
(See also paragraph (g) of this section.)

Grade	Minimum limits of sound barley	Maximum limits of—				
		Heat-damaged kernels (barley, other grains, and wild oats)	Wild oats	Foreign material	Broken kernels	Black barley
	Percent	Percent	Percent	Percent	Percent	Percent
U.S. No. 1-----	98.0	0.1	1.0	0.5	3.0	0.5
U.S. No. 2-----	96.0	.2	2.0	1.0	6.0	1.0
U.S. No. 3-----	93.0	.3	3.0	2.0	10.0	2.0
U.S. No. 4-----	88.0	.5	5.0	3.0	15.0	5.0
U.S. No. 5-----	80.0	1.0	10.0	4.0	25.0	10.0
U.S. Sample grade.	U.S. Sample grade shall include barley of the class Western Barley which does not come within the grade requirements of any of the grades from U.S. No. 1 to U.S. No. 5, inclusive; or which contains more than 15 percent of moisture; or which contains stones; or which is musty, or sour, or heating; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which contains the seeds of wild brome grasses of a character and in a quantity sufficient to cause the grain to be of low quality for feeding purposes; or which is otherwise of distinctly low quality.					

## Mixed Barley

(d) **Grades and grade requirements for the class Mixed Barley.** The class Mixed Barley shall be graded according to the grade requirements of the class of Barley which predominates in the mixture. If black barley predominates, the grade requirements for the subclass barley of the class Barley shall be used.

## Grade Designations

(e) **Grade designations for barley.** The grade designations for barley shall include the letters "U.S." ; the number of the grade or the words "Sample grade," as the case may be; the name of the class or subclass; the name of each applicable special grade; and when applicable the word "dockage" together with the percentage thereof. In the case of the class Mixed Barley, the grade designation shall also include, following the name of the class, the approximate percentage of Barley, Western Barley, and black barley in the mixture.

## Dockage

(f) **Dockage.** The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. Dockage shall be stated in terms of whole percent and any fraction of a percent shall be disregarded.

## Special Grades for Barley

(g) **Special grades, special grade requirements and special grade designations for barley—(1) Test weight of Western Barley.** For barley of the class Western Barley, the test weight per bushel in terms of whole pounds shall be added to and made a part of the grade designation, following the name of the class. A fraction of a pound shall be disregarded.

(2) **Tough barley—(i) Requirements.** Tough barley shall be (a) barley of the class Barley which contains more than 14.5 percent but not more than 16.0 percent of moisture and (b) barley of the class Western Barley which contains more than 13.5 percent but not more than 15.0 percent of moisture.

(ii) **Grade designation.** Tough barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not tough, and there shall be added to, and made a part of, the grade designation, the word "Tough."

**(3) Two-rowed Barley—(i) Requirements.** Two-rowed Barley shall consist of two-rowed barley of the class Barley, or of the class Western Barley, which does not meet the requirements for the special grades Choice Malting Two-rowed Barley, and Malting Two-rowed Barley, and may contain not more than 10.0 percent of six-rowed barley.

**(ii) Grade designation.** Two-rowed Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not two-rowed, and there shall be added to, and made a part of, the grade designation, preceding the name of the class, the word "Two-rowed."

**(4) Choice Malting Two-rowed Barley—(i) Requirements.** Choice Malting Two-rowed Barley shall be two-rowed barley of the class Barley which consists of the Betzes varietal type or two-rowed barley of the class Western Barley which consists of the Hannchen or Hanna varietal type; which does not contain more than 3.0 percent of varietal types of barley other than Betzes, Hannchen, or Hanna; which meets the requirements for grade U.S. No. 1 Western Barley except that the class requirements for Western Barley and the limitation on seeds of wild brome grasses shall be disregarded in determining the U.S. numerical grade; which has a test weight per bushel of 52 pounds or more; which contains 90 percent or more of mellow kernels; which is not semisteely in mass; which does not contain more than 5.0 percent of thin barley; which does not contain more than 5.0 percent of skinned and/or broken kernels; and which does not contain barley injured by frost, by heat, or by mold; and shall not include barley of the special grades stained, smutty, garlicky, weevily, ergoty, or bleached.

**(ii) Grade designation.** Choice Malting Two-rowed Barley shall meet the special grade requirements for Choice Malting Two-rowed Barley and shall be graded and designated according to the class and grade requirements of the standards applicable to such barley if it were not Choice Malting Two-rowed, and there shall be added to and made a part of the grade designation, preceding the name of the class, the words "Choice Malting Two-rowed."

**(5) Malting Two-rowed Barley—(i) Requirements.** Malting Two-rowed Barley shall be two-rowed barley of the class Barley which consists of the Betzes varietal type or two-rowed barley of the class Western Barley which consists of the Hannchen or Hanna varietal types; which does not contain more than 5.0 percent of varietal types of barley other than Betzes, Hannchen, or Hanna; which meets the requirements for any of the grades U.S. No. 1 to U. S. No. 3 Western Barley, inclusive, except that the class requirements for Western Barley and the limitation on seeds of wild brome grasses shall be disregarded in determining the U.S. numerical grade; which does not meet the requirements for the special grade Choice Malting Two-rowed Barley; which has a test weight per bushel of 50 pounds or more; which contains 70 percent or more of mellow kernels; which is not semisteely in mass; which does not contain more than 10.0 percent of thin barley; which does not contain more than 10.0 percent of skinned and/or broken kernels; and which does not contain barley injured by frost, by heat, or by mold; and shall not include barley of the special grades stained, blighted, smutty, garlicky, weevily, ergoty, or bleached: *Provided*, That Malting Two-rowed Barley of the grade U.S. No. 1 shall contain not less than 80 percent of mellow kernels; and may not contain more than 3.0 percent of varietal types of barley other than Betzes, Hannchen, or Hanna, or more than 7.0 percent of thin barley, or more than 7.0 percent of skinned and/or broken kernels.

**(ii) Grade designation.** Malting Two-rowed Barley shall be graded and designated according to the special grade requirements for malting two-rowed barley and to the class and grade requirements applicable to such barley if it were not Malting Two-rowed, and there shall be added to and made a part of the grade designation, preceding the name of the class, the words "Malting Two-rowed."

**(6) Bright Western Barley—(i) Requirements.** Bright Western Barley shall be barley of the class Western Barley, except Bleached Barley, that is of good natural color.

(ii) **Grade designation.** Bright Western Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not bright, and there shall be added to, and made a part of, the grade designation, preceding the name of the class, the word "Bright."

(7) **Stained Western Barley—(i) Requirements.** Stained Western Barley shall be barley of the class Western Barley, except Bleached Barley, that is badly stained or weathered.

(ii) **Grade designation.** Stained Western Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not stained, and there shall be added to, and made a part of, the grade designation, the word "Stained."

(8) **Blighted Barley—(i) Requirements.** Blighted Barley shall be barley which contains more than 4.0 percent of barley damaged or materially discolored by blight and/or mold.

(ii) **Grade designation.** Blighted Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not blighted, and there shall be added to, and made a part of, the grade designation, the word "Blighted."

(9) **Smutty Barley—(i) Requirements.** Smutty Barley shall be barley which has the kernels covered with smut spores, or which contains smut masses in excess of 0.2 percent.

(ii) **Grade designation.** Smutty Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not smutty, and there shall be added to, and made a part of, the grade designation, the word "Smutty."

(10) **Garlicky Barley—(i) Requirements.** Garlicky Barley shall be barley which contains 3 or more green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 500 grams of barley.

(ii) **Grade designation.** Garlicky Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not garlicky, and there shall be added to, and made a part of, the grade designation, the word "Garlicky."

(11) **Weevily Barley—(i) Requirements.** Weevily Barley shall be barley which is infested with live weevils or other insects injurious to stored grain.

(ii) **Grade designation.** Weevily Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not weevily, and there shall be added to, and made a part of, the grade designation, the word "Weevily."

(12) **Ergoty Barley—(i) Requirements.** Ergoty Barley shall be barley which contains ergot in excess of 0.3 percent.

(ii) **Grade designation.** Ergoty Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not ergoty, and there shall be added to, and made a part of, the grade designation, the word "Ergoty."

(13) **Bleached Barley—(i) Requirements.** Bleached Barley shall be barley which, in whole, or in part, has been treated by the use of sulphurous acid or any other bleaching agent.

(ii) **Grade designation.** Bleached Barley shall be graded and designated according to the grade requirements of the standards applicable to such barley if it were not bleached, and there shall be added to, and made a part of, the grade designation, the word "Bleached."

### Interpretations [Added]

#### § 26.901 Interpretation with respect to the term "distinctly low quality"

The term "distinctly low quality," when used in the United States Standards for Grain, shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.

# UNITED STATES STANDARDS FOR OATS<sup>1</sup>

## TERMS DEFINED

### § 26.251 Definition of oats.

Grain which consists of 50 percent or more of oats (*Avena sativa* L. and *A. byzantina* C. Koch) and may contain, singly or in combination, not more than 25 percent of wild oats and other grains for which standards have been established under the United States Grain Standards Act.

### § 26.252 Definitions of other terms.

For the purposes of these standards the following terms shall have the meanings stated below:

(a) **Distinctly low quality.** Oats which are obviously of inferior quality because they contain foreign substances or because they are in an unusual state or condition, and which cannot be properly graded by use of the other grading factors provided in the standards.

(b) **Fine seeds.** All matter which may be removed from a test portion of the original sample by an approved device in accordance with procedures prescribed in the Grain Inspection Manual.<sup>2</sup> For the purpose of this paragraph, "approved device" shall be the 5/64 triangular-hole sieve.<sup>3</sup>

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<sup>1</sup> Compliance with the provisions of these standards does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.

<sup>2</sup> Grain Inspection Manual, GR Instruction 918-6, effective August 28, 1972, as amended, U.S. Department of Agriculture, Agricultural Marketing Service. Copies may be obtained from the Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250.

<sup>3</sup> Requests for information concerning approved devices and procedures, criteria for approved devices, and request for approval of devices should be directed to the Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250.

(c) **Foreign material.** All matter other than oats, wild oats, and other grains (see paragraph (f) of this section). Oat clippings and detached oat hulls are foreign material.

(d) **Heat-damaged kernels.** Kernels and pieces of kernels of oats, other grains (see paragraph (f) of this section), and wild oats which are materially discolored and damaged as a result of heating.

(e) **Moisture.** Water content in oats as determined by an approved device in accordance with procedures prescribed in the Grain Inspection Manual. For the purpose of this paragraph "approved device" shall include the Motoanco Moisture Meter and any other equipment that is approved by the Administrator as giving equivalent results.<sup>3</sup>

(f) **Other grains.** Barley, corn, cultivated buckwheat, einkorn, emmer, flaxseed, guar, hull-less barley, nongrain sorghum, Polish wheat, popcorn, poulard wheat, rice, rye, sorghum, soybeans, spelt, sunflower, sweet corn, triticale, and wheat.

(g) **Sieves.** (1) **5/64 triangular-hole sieve.** A metal sieve 0.032 inch thick with equilateral triangular perforations the inscribed circles of which are 0.0781 (5/64) inch in diameter.

(2) **0.064 x 3/8 oblong-hole sieve.** A metal sieve 0.032 inch thick with oblong perforations 0.064 inch by 0.375 (3/8) inch.

(h) **Sound oats.** Kernels and pieces of kernels of oats (except wild oats) which are not badly ground-damaged, badly weather-damaged, diseased, frost-damaged, heat-damaged, insect-bored, mold-damaged, sprout-damaged, or otherwise materially damaged.

(i) **Stones.** Concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

(j) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel (2,150.42 cubic inch capacity) as determined on a test portion of the original sample by an approved device in accordance with instructions in the Grain Inspection Manual. For the purpose of this paragraph "approved device" shall include the Fairbanks-Morse or Obaus Test Weight Per Bushel Apparatus and any other equipment that is approved by the Administrator as giving equivalent results.

Test weight per bushel, for grade determination, shall be stated in terms of whole and half pounds; a fraction of a pound when equal to or greater than one-half shall be stated as one-half and when less than one-half shall be disregarded: e.g., 41.1 through 41.4 shall be 41.0 and 41.5 through 41.9 shall be 41.5.

(k) Wild oats. Seeds of *Avena fatua* and *A. sterilis*.

PRINCIPLES GOVERNING APPLICATION OF  
STANDARDS

**§ 26.253 Basis of determination.**

All determinations shall be on a test portion of the original sample.

**§ 26.254 Temporary modifications in equipment and procedures.**

The equipment and procedures referred to in the oats standards are applicable to oats produced and harvested under normal environmental conditions. Abnormal environmental conditions during the production and harvesting of oats may require minor temporary modifications in the equipment or procedures to obtain results expected under normal conditions. When these adjustments are necessary; Grain Division Field Offices, official inspection agencies, and interested parties in the grain industry will be notified promptly in writing of the modification. Changes in interpretations of identity, quality, and condition are excluded and shall not be made.

**§ 26.255 Percentages.**

Percentages shall be determined on the basis of weight and shall be rounded off as follows:

(a) When the figure to be rounded is followed by a figure greater than 5, round to the next higher figure; e.g., 0.46, report as 0.5.

(b) When the figure to be rounded is followed by a figure less than 5, round to the next lowest figure; e.g., 0.54, report as 0.5.

(c) When the figure to be rounded is even and it is followed by the figure 5, retain the even figure. When

the figure to be rounded is odd and it is followed by 5, round the figure to the next highest number; e.g., 0.45, report as 0.4; 0.55, report as 0.6.

Percentages, except when determining the quantity of ergot and the identity of oats, shall be stated in whole and tenth percent to the nearest tenth percent, unless otherwise prescribed in the Grain Inspection Manual. The percentage of ergot shall be stated to the nearest hundredth percent. The percentage of oats, wild oats, and other grains in determining the identity of oats shall be stated to the nearest whole percent.

#### GRADES, GRADE REQUIREMENTS, AND GRADE DESIGNATIONS

#### § 26.256 Grades and grade requirements for oats. (See also § 26.258.)

Grade	Minimum limits			Maximum limits		
	Test weight per bushel	Sound oats	Heat-damaged kernels	Foreign material	Wild oats	
U.S. No. 1 -----	36.0	97.0	0.1	2.0	2.0	
U.S. No. 2 -----	33.0	94.0	.3	3.0	3.0	
U.S. No. 3 <sup>1</sup> -----	30.0	90.0	1.0	4.0	5.0	
U.S. No. 4 <sup>2</sup> -----	27.0	80.0	3.0	5.0	10.0	
U.S. sample grade ---	U.S. Sample grade shall be oats which—					
	(a) Do not meet the requirements for the grades U.S. No. 1, 2, 3, or 4.					
	(b) Contain more than 7 stones which have an aggregate weight in excess of 0.2 percent of the sample weight or more than 2 crotalaria seeds ( <i>Crotalaria spp.</i> ) per 1,000 grams of oats or more than 16 percent of moisture.					
	(c) Have a musty, sour, or commercially objectionable foreign odor (except smut or garlic odor), or					
	(d) Are heating or otherwise of distinctly low quality.					

<sup>1</sup> Oats that are slightly weathered shall be graded not higher than U.S. No. 3.

<sup>2</sup> Oats that are badly stained or materially weathered shall be graded not higher than U.S. No. 4.

## § 26.257 Grade designations.

The grade designations for oats shall include in the following order: (a) The letters "U.S.," (b) the number of the grade or the words "Sample grade," (c) certain special grade designations, if applicable (see § 26.259), (d) the word "oats," and (e) certain special grade designations, if applicable (see § 26.259).

### SPECIAL GRADES, SPECIAL GRADE REQUIREMENTS, AND SPECIAL GRADE DESIGNATIONS

## § 26.258 Special grades and special grade requirements.

A special grade, when applicable, is supplemental to the grade assigned under § 26.256. Such special grades are established and determined as follows:

(a) **Bleached oats.** Oats which in whole or in part, have been treated with sulphurous acid or any other bleaching agent.

(b) **Bright oats.** Oats, except Bleached oats, that are of good natural color.

(c) **Ergoty oats.** Oats which contain ergot in excess of 0.10 percent.

(d) **Extra-heavy oats.** Oats which have a test weight per bushel of 40 pounds or more.

(e) **Garlicky oats.** Oats which contain 4 or more green garlic bulblets or an equivalent quantity of dry or partly dry bulblets in 500 grams of oats.

(f) **Heavy oats.** Oats which have a test weight per bushel of 38 pounds or more but less than 40 pounds.

(g) **Smutty oats.** Oats which have kernels covered with smut spores or which contain smut masses and smut balls in excess of 0.2 percent.

(h) **Thin oats.** Oats which contain more than 20.0 percent of oats and other matter, except "fine seeds," which may be removed from a test portion of the original sample by approved devices in accordance with the procedures prescribed in the Grain Inspection Manual. For the purpose of this paragraph "approved devices" shall be the 0.064 x 3/8 oblong-hole sieve and the 5/64 triangular-hole sieve.

(i) **Tough oats.** Oats which contain more than 14.0 percent but not more than 16.0 percent of moisture.

(j) **Weevily oats.** Oats which are infested with live weevils or other insects injurious to stored grain. As

applied to oats, the meaning of the term "infested" is set forth in chapter VI of the Grain Inspection Manual.

### § 26.259 Special grade designations.

(See also § 26.258.)

The grade designations for bright, extra-heavy, and heavy oats shall include, preceding the word "oats," the word(s) "Bright," "Extra-heavy," or "Heavy," as warranted, and all other information prescribed in § 26.257. The grade designation for bleached, ergoty, garlicky, smutty, thin, tough, and weevily oats shall include, following the word "oats," the word(s) "Bleached," "Ergoty," "Garlicky," "Smutty," "Thin," "Tough," or "Weevily," as warranted, and all other information prescribed in § 26.257.

# UNITED STATES STANDARDS FOR RYE<sup>1</sup>

## § 26.401 Terms defined

For the purposes of the United States Standards for Rye:

(a) **Rye.** Rye shall be any grain which, before the removal of dockage, consists of 50 percent or more of rye and not more than 10.0 percent of other grains for which standards have been established under the provisions of the United States Grain Standards Act.

(b) **Grades.** Rye shall be graded and designated according to the respective grade requirements of the U.S. numerical grades and U.S. Sample grade of these standards, and according to the special grades when applicable.

NOTE:—"§ 26.402—(Rye; grade requirements) on following page."

## § 26.403 Dockage

Dockage includes weed seeds, weed stems, chaff, straw, grain other than rye, sand, dirt, and any other foreign material, which can be removed readily from the rye by the use of appropriate sieves and cleaning devices; also undeveloped, shriveled, and small pieces of rye kernels which are removed in properly separating the foreign material, and which cannot be recovered by properly rescreening or recleaning.

The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. The percentage of dockage so calculated, when equal to 1.0 percent or more, shall be stated in terms of whole percent, and when less than 1.0 percent shall not be stated. A fraction of a percent shall be disregarded. The word "Dockage", together with the percentage thereof, shall be added to the grade designation.

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<sup>1</sup> The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

## § 26.402 Grades, grade requirements, and grade designations

### Rye

(a) Grades and grade requirements for Rye. (See also §§ 26.403(a) through 26.408.)

Grade No.	Minimum test weight per bushel	Maximum limits of—			
		Damaged kernels (rye and other grains)		Foreign material	
		Total	Heat-damaged	Total	Foreign matter other than wheat
U.S. No. 1 <sup>1</sup> -----	Pounds 56.0	Percent 2.0	Percent 0.1	Percent 3.0	Percent 1.0
U.S. No. 2 <sup>1</sup> -----	54.0	4.0	.2	6.0	2.0
U.S. No. 3 <sup>1</sup> -----	52.0	7.0	.5	10.0	4.0
U.S. No. 4-----	49.0	15.0	3.0	10.0	6.0
U.S. Sample grade.		U.S. Sample grade shall include rye which does not come within the requirements of any of the grades from U.S. No. 1 to U.S. No. 4, inclusive; or which contains more than 16 percent of moisture; or which contains inseparable stones and/or cinders; or which is musty, or sour, or heating, or hot; or which has any commercially objectionable foreign odor except of smut or garlic; or which contains a quantity of smut so great that any one or more of the grade requirements cannot be applied accurately; or which is otherwise of distinctly low quality.			

<sup>1</sup> The rye in grade U.S. No. 1 may contain not more than 10.0 percent, in grade U.S. No. 2 not more than 15.0 percent, and in grade U.S. No. 3 not more than 25.0 percent of "thin" rye, which "thin" rye shall consist of rye and other matter that will pass readily through a sieve 0.032 inch thick with perforations 0.064 by 0.375 inch.

(b) **Grade designations for rye.** The grade designations for rye shall include the letters "U.S."; the number of the grade or the words "Sample grade," as the case may be; the word "Rye"; the name of each applicable special grade; and when applicable the word "dockage" together with the percentage thereof.

### § 26.403a Special grade; Plump rye

(a) **Definition.** Plump rye shall be rye which does not contain more than 5.0 percent of rye and other matter that will pass through a 20-gage metal sieve with rectangular perforations 0.064 inch wide by  $\frac{3}{8}$  inch long.

(b) **Grades.** Plump rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not plump, and there shall be added to and made a part of the grade designation, immediately preceding the word rye, the word "Plump."

### § 26.404 Special grade; Tough rye

(a) **Definition.** Tough rye shall be rye which contains more than 14.0 percent but not more than 16.0 percent of moisture.

(b) **Grades.** Tough rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not tough, and there shall be added to and made a part of the grade designation, the word "Tough."

### § 26.405 Special grade; Smutty rye

(a) **Definition.** Smutty rye shall be rye which has an unmistakable odor of smut, or which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 14 balls of average size in 250 grams of rye.

(b) **Grades.** Smutty rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not smutty; and

(1) In the case of smutty rye which has an unmistakable odor of smut, or which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 14 balls but not in excess of a quantity equal to 30 balls of average size in 250 grams of rye, there shall be added to, and made a part of, the grade designation, the words "Light Smutty"; and

(2) In the case of smutty rye which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 30 balls of average size in 250 grams of rye, there shall be added to, and made a part of, the grade designation, the word "Smutty."

## § 26.406 Special grade; Garlicky rye

(a) **Definition.** Garlicky rye shall be rye which contains two or more green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of rye.

(b) **Grades.** Garlicky rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not garlicky; and

(1) In the case of garlicky rye which contains two or more but not more than six green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of rye, there shall be added to, and made a part of, the grade designation, the words "Light Garlicky"; and

(2) In the case of garlicky rye which contains more than six green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of rye, there shall be added to, and made a part of, the grade designation, the word "Garlicky."

## § 26.407 Special grade; Weevily rye

(a) **Definition.** Weevily rye shall be rye which is infested with live weevils or other insects injurious to stored grain.

(b) **Grades.** Weevily rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not weevily, and there shall be added to, and made a part of, the grade designation, the word "Weevily."

## § 26.408 Special grade; Ergoty rye

(a) **Definition.** Ergoty rye shall be rye which contains ergot in excess of 0.3 percent.

(b) **Grades.** Ergoty rye shall be graded and designated according to the grade requirements of the standards applicable to such rye if it were not ergoty, and there shall be added to, and made a part of, the grade designation, the word "Ergoty."

## § 26.409 Grade factors; definitions

(a) **Basis of grade determinations.** Each determination of dockage, temperature, odor, garlic, and live weevils or other insects injurious to stored grain, shall be upon the basis of the grain as a whole. All other determinations shall be upon the basis of the grain when free from dockage.

(b) **Percentages.** Percentages, except in the case of moisture, shall be percentages ascertained by weight.

(c) **Percentage of moisture.** Percentage of moisture shall be that ascertained by the air oven and the method of use thereof described in Service and Regulatory Announcements No. 147 of the Agricultural Marketing Service of the United States Department of Agriculture, or ascertained by any device and method which give equivalent results in the determination of moisture.

(d) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel as determined by the testing apparatus and the method of use thereof described in Bulletin No. 1065, dated May 18, 1922, issued by the United States Department of Agriculture, or as determined by any device and method which give equivalent results in the determination of test weight per bushel.

(e) **Foreign material.** Foreign material shall include all matter other than rye which is not separated from the rye in the proper determination of dockage, except that smut balls shall not be considered as foreign material.

(f) **Other grains.** Other grains shall include wheat, oats, corn, grain sorghum, barley, hull-less barley, flaxseed, emmer, spelt, einkorn, Polish wheat, poulard wheat, cultivated buckwheat, and soybeans.

(g) **Damaged kernels.** Damaged kernels shall be kernels and pieces of kernels of rye and other grains which are heat damaged, sprouted, frosted, badly ground damaged, badly weather damaged, or otherwise materially damaged.

(h) **Heat-damaged kernels.** Heat-damaged kernels shall be kernels and pieces of kernels of rye and other grains which have been materially discolored and damaged by external heat or as a result of heating caused by fermentation.

#### Interpretations [Added]

### § 26.901 Interpretation with respect to the term "distinctly low quality"

The term "distinctly low quality," when used in the United States Standards for Grain, shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.

# UNITED STATES STANDARDS FOR SORGHUM<sup>1</sup>

## TERMS DEFINED

### § 26.551 Definition of sorghum.

Grain which, before the removal of dockage, consists of 50 percent or more of whole kernels of sorghum (*Sorghum vulgare*) excluding nongrain sorghum and which contains not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act. Whole kernels, for purposes of this determination, shall be sorghum with  $\frac{1}{4}$  or less of the kernel removed.

### § 26.552 Definitions of other terms.

For the purposes of these standards the following terms shall have the meanings stated below:

(a) **Broken kernels, foreign material, and other grains.**—All material, including whole kernels of sorghum and pieces of kernels of sorghum (except dockage) which may be removed from a test portion of the original sample by use of an approved device, and by handpicking a portion of the sample, in accordance with procedures prescribed in the Grain Inspection Manual.<sup>2</sup> For the purpose of this paragraph "approved device" shall include the Carter Dockage Tester and any other equipment that is approved by the Administrator as giving equivalent results.<sup>3</sup>

(b) **Classes.**—The following four classes:

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<sup>1</sup> Compliance with the provisions of these standards does not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act, or other Federal laws.

<sup>2</sup> Grain Inspection Manual, GR Instruction 918-6, revised August 28, 1972. Copies may be obtained from the Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, D C 20250.

(1) **Brown sorghum.**—Sorghum with brown pericarps or brown subcoats which contains not more than 10.0 percent of sorghum of other colors.

(2) **White sorghum.**—Sorghum with white pericarps which contains not more than 2.0 percent of sorghum with pericarps or subcoats of other colors.

(3) **Yellow sorghum.**—Sorghum with yellow, salmon-pink, red, or white pericarps, or white but spotted pericarps, which contains not more than 10.0 percent of sorghum with brown pericarps or subcoats and which does not meet the requirements for the class White Sorghum.

(4) **Mixed sorghum.**—Sorghum which does not meet the requirements for any of the classes Brown Sorghum, Yellow Sorghum, or White Sorghum.

(c) **Damaged kernels (total).**—Kernels and pieces of kernels of sorghum and other grains which are heat-damaged, sprout-damaged, frost-damaged, badly ground-damaged, badly weather-damaged, mold-damaged, diseased, insect-bored, or otherwise materially damaged.

(d) **Distinctly low quality.**—Sorghum which is obviously of inferior quality because it contains foreign substances or because it is in an unusual state or condition, and which cannot be graded by use of the other grading factors provided in the standards.

(e) **Dockage.**—Material that will pass through a 2 1/2/64 inch round-hole sieve (see paragraph (k) of this section), including pieces of sorghum, which may be removed from a test portion of the original sample by use of an approved device in accordance with procedures prescribed in the Grain Inspection Manual.<sup>2</sup> For the purpose of this paragraph "approved device" shall include the Carter Dockage Tester and any other equipment that is approved by the Administrator as giving equivalent results.<sup>3</sup>

(f) **Heat-damaged kernels**—Kernels and pieces of kernels of sorghum and other grains which are materially discolored and damaged as a result of heating.

(g) **Moisture.**—Water content in sorghum as determined by an approved device in accordance with procedures prescribed in the Grain Inspection Manual.<sup>2</sup> For the purpose of this paragraph "approved device" shall include the Motomco Moisture Meter and any other equip-

ment that is approved by the Administrator as giving equivalent results.<sup>3</sup>

(h) **Nongrain sorghum.**—Seeds of broomcorn, johnson-grass, sorghum alum, sorghum-sudangrass hybrids, sorgrass, sudangrass, and sweet sorghum (sorgo).

(i) **Other grains.**—Barley, corn, cultivated buckwheat, einkorn, emmer, flaxseed, hull-less barley, nongrain sorghum, oats, Polish wheat, popcorn, poulard wheat, rice, rye, soybeans, spelt, sunflower, sweet corn, triticale, wheat, and wild oats.

(j) **Pericarp.**—The pericarp is the outer layers of the sorghum grain and is fused to the seedcoat.

(k) **Sieves.**—(1) *5/64 triangular-hole sieve.* A metal sieve 0.032 inch thick with equilateral triangular perforations the inscribed circles of which are 0.0781 (5/64) inch in diameter.<sup>3</sup>

(2) *21/2/64 round-hole sieve.* A metal sieve 0.032 inch thick with round holes  $2\frac{1}{2}/64$  inch in diameter.<sup>3</sup>

(l) **Stones.**—Concreted earthly or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

(m) **Test weight per bushel.**—Test weight per bushel shall be the weight per Winchester bushel (2,150.42 cubic inch capacity) as determined on a test portion of the original sample by an approved device in accordance with instructions in the Grain Inspection Manual.<sup>2</sup> For the purpose of this paragraph, "approved device" shall include the Fairbanks-Morse or Ohaus Test Weight Per Bushel Apparatus and any other equipment that is approved by the Administrator as giving equivalent results.<sup>3</sup> Test weight per bushel shall be stated in terms of whole and half pounds; a fraction of a pound when equal to or greater than one-half shall be stated as one-half and when less than one-half shall be disregarded; e.g., 51.1 through 51.4 shall be 51.0, and 51.5 through 51.9 shall be 51.5.

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<sup>3</sup> Requests for information concerning approved devices and procedures, criteria for approved devices, and request for approval of devices should be directed to the Grain Division, Agricultural Marketing Service, U.S. Department of Agriculture, Washington, DC 20250.

PRINCIPLES GOVERNING APPLICATION OF  
STANDARDS**§ 26.553 Basis of determination.**

Each determination of "broken kernels, foreign material, and other grains" shall be determined on a test portion of the grain sample when free from "dockage." Each determination of "class," "damaged kernels," "heat-damaged kernels," and "stones" shall be determined on a test portion of the grain sample when free from "dockage," and that part of the "broken kernels, foreign material, and other grains" which will pass through a  $\frac{5}{64}$  inch triangular-hole sieve (see § 26.52 (k)). All other determinations shall be on a test portion of the original sample.

**§ 26.554 Temporary adjustments in equipment and procedures.**

The equipment and procedures referred to in the sorghum standards are applicable to sorghum produced and harvested under normal environmental conditions. Abnormal environmental conditions during the production and harvest of sorghum may require temporary, nonsubstantive adjustments in the procedures or equipment to obtain results expected under normal conditions. Adjustments in interpretations (i.e., identity, class, quality, and condition) are excluded and shall not be made. When these adjustments are necessary, Grain Division Field Offices, Official Inspection Agencies and interested parties in the grain trade will be notified promptly in writing of the change.

**§ 26.555 Percentages.**

(a) Percentages shall be determined on the basis of weight and shall be rounded off as follows:

(1) When the figure to be rounded is followed by a figure greater than 5, round to the next higher figure, e.g., 0.46, report as 0.5.

(2) When the figure to be rounded is followed by a figure less than 5, round to the next lowest figure, e.g., 0.54, report as 0.5.

(3) When the figure to be rounded is even and it is followed by the figure 5, retain the even figure. When the figure to be rounded is odd and it is followed by 5,

round the figure to the next highest number, e.g., 0.45, report as 0.4; 0.55, report as 0.6.

(b) Percentages, except for dockage shall be stated in whole and tenth percent to the nearest tenth percent. The percentage of dockage when equal to one percent or more shall be stated as a whole percent; a fraction of a percent shall be disregarded.

(c) The percentage of "broken kernels, foreign material, and other grains" shall be the sum of the percentage determined for the mechanically separated portion and the percentage determined for the handicapped portion in accordance with instructions in the Grain Inspection Manual.<sup>3</sup>

## § 26.556 [Reserved]

### GRADES, GRADE REQUIREMENTS, AND GRADE DESIGNATIONS

## § 26.557 Grades and grade requirements for all classes of sorghum. (See also § 26.559.)

Grade	Minimum limits of—					
	Minimum test weight per bushel <i>Pounds</i>	Mois-ture <i>Percent</i>	Damaged kernels		Heat-damaged and other damaged and other grains <i>Percent</i>	Broken kernels, foreign material, and other grains <i>Percent</i>
			Total <i>Percent</i>	kernels <i>Percent</i>		
U.S. No. 1 -----	57.0	13.0	2.0	0.2	4.0	
U.S. No. 2 -----	55.0	14.0	5.0	0.5	8.0	
U.S. No. 3 <sup>1</sup> -----	53.0	15.0	10.0	1.0	12.0	
U.S. No. 4 -----	51.0	18.0	15.0	3.0	15.0	
U.S. Sample grade.	U.S. Sample grade shall be sorghum which—					
	(a) Does not meet the requirements for the grades U.S. Nos. 1, 2, 3, or 4.					
	(b) Contains more than 7 stones which have an aggregate weight in excess of 0.2 percent of the sample weight or more than 2 <i>Crotalaria</i> seeds ( <i>Crotalaria</i> spp.) per 1,000 grams of sorghum.					
	(c) Has a musty, sour, or commercially objectionable foreign odor (except smut odor) or					
	(d) Is badly weathered, heating, or distinctly low quality (see § 26.552(d)).					

<sup>1</sup> Sorghum which is distinctly discolored shall not be graded higher than U.S. No. 3.

## § 26.558 Grade designations.

The grade designations for sorghum shall include in the following order: (a) The letters "U.S.," (b) the number of the grade or the words "Sample grade," (c) the class, (d) each applicable special grade (see § 26.560), and (e) when applicable, the word "dockage" together with the percentage thereof. The grade designation for the class "Mixed Sorghum" shall include, following the words "Mixed Sorghum," the approximate percentages of each class of sorghum in the mixture in the order of predominance.

### SPECIAL GRADES, SPECIAL GRADE REQUIREMENTS, AND SPECIAL GRADE DESIGNATIONS

## § 26.559 Special grades and special grade requirements.

A special grade, when applicable, is supplemental to the grade assigned under § 26.557. Such special grades are established and determined as follows:

(a) **Smutty sorghum.** Sorghum which is covered with smut spores or which contains 20 or more smut masses in 100 grams of sorghum.

(b) **Weevily sorghum.** Sorghum which is infested with live weevils or other live insects injurious to stored grain. As applied to sorghum the meaning of the term "infested" is set forth in chapter IX of the Grain Inspection Manual.<sup>2</sup>

## § 26.560 Special grade designation.

The grade designation for smutty or weevily sorghum shall include, following the class, the word(s) "Smutty" or "Weevily," as warranted, and all other information prescribed in § 26.558.

# UNITED STATES STANDARDS FOR FLAXSEED<sup>1</sup>

## § 26.501 Terms defined

For the purposes of the United States Standards for Flaxseed (*Linum usitatissimum*), the terms specified in §§ 26.502 through 26.506 shall have the meanings stated in said sections, respectively.

## § 26.502 Flaxseed

Flaxseed shall be any grain which, before the removal of dockage, consists of 50 percent or more of flaxseed and not more than 20.0 percent of other grains for which standards have been established under the provisions of the United States Grain Standards Act.

## § 26.503 Dockage

Dockage shall be all matter other than flaxseed, also underdeveloped and shriveled flaxseed and small pieces of flaxseed removed in properly separating the material other than flaxseed and which cannot be recovered by properly rescreening or recleaning. (See also §§ 26.509 and 26.514.)

## § 26.504 Damaged flaxseed

Damaged flaxseed shall be flaxseed and pieces of flaxseed which are heat-damaged, sprouted, frosted, badly ground damaged, badly weather damaged, moldy, diseased, or otherwise materially damaged.

## § 26.505 Heat-damaged flaxseed

Heat-damaged flaxseed shall be flaxseed and pieces of flaxseed which are materially discolored and damaged by heat.

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<sup>1</sup> The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

**§ 26.506 Stones**

Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

**§ 26.507 Principles governing application of standards**

The principles stated in §§ 26.508 through 26.511 shall apply in the determination of the grades of flaxseed.

**§ 26.508 Basis of determinations**

Each determination of moisture, test weight per bushel, heat-damaged flaxseed, and damaged flaxseed, shall be upon the basis of the grain after the removal of that part of the dockage which can be removed readily by the use of appropriate sieves and cleaning devices. All other determinations shall be upon the basis of the grain as a whole.

**§ 26.509 Percentages**

All percentages shall be upon the basis of weight. Percentages except for dockage shall be expressed in whole and tenth percent to the nearest tenth of a percent. The percentage of dockage when equal to 1.0 percent or more shall be stated in terms of whole percent and when less than 1.0 percent shall not be stated. A fraction of a percent of dockage shall be disregarded.

**§ 26.510 Moisture**

Moisture shall be ascertained by use of the equipment and procedure prescribed by the Agricultural Marketing Service, U.S. Department of Agriculture. (Information thereon may be obtained from said Service.)

**§ 26.511 Test weight per bushel**

Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the U.S. Department of Agriculture as described in Circular No. 921, issued June 1953. Test weight per bushel shall be expressed in whole and half pounds. A fraction of a half pound shall be disregarded.

**§ 26.512 Grades**

Grades shall be the U.S. numerical grades and U.S. Sample grade provided for in § 26.513.

**§ 26.513 Grades and grade requirements for flaxseed.**

Grade	Minimum test weight per bushel	Maximum limits of—	
		Heat-damaged flaxseed	Damaged flaxseed (total)
	Pounds	Percent	Percent
U.S. No. 1-----	49.0	0.2	10.0
U.S. No. 2-----	47.0	.5	15.0
U.S. Sample grade-----			U.S. Sample grade shall be flaxseed which does not meet the requirements for grade U.S. No. 1 or U.S. No. 2; or which contains more than 9.5 percent of moisture; or which contains castor beans ( <i>Ricinus communis</i> ), crotalaria seeds ( <i>Crotalaria spp.</i> ), stones, or other foreign substances, or commonly recognized harmful or toxic substances; or which is musty, sour, or heating; or which has any commercially objectionable foreign odor; or which is otherwise of distinctly low quality.

**§ 26.514 Grade designations for flaxseed**

The grade designation for flaxseed shall include in the order named, the letters "U.S."; the number of the grade or the words "Sample grade," as the case may be; the word "Flaxseed"; and, when applicable, the word "dockage" together with the percentage thereof.

**Interpretations [Added]****§ 26.901 Interpretation with respect to the term "distinctly low quality"**

The term "distinctly low quality," when used in the United States Standards for Grain, shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.



# UNITED STATES STANDARDS FOR SOYBEANS<sup>1</sup>

## § 26.601 Terms defined

For the purposes of the United States Standards for Soybeans:

(a) **Soybeans.** Soybeans shall be any grain which consists of 50 percent or more of whole or broken soybeans which will not pass readily through an 8/64 sieve and not more than 10.0 percent of other grains for which standards have been established under the United States Grain Standards Act.

(b) **Classes.** Soybeans shall be divided into the following five classes: Yellow soybeans, green soybeans, brown soybeans, black soybeans, and mixed soybeans.

(c) **Yellow soybeans.** Yellow soybeans shall be any soybeans which have yellow or green seed coats, and which in cross section are yellow or have a yellow tinge, and may include not more than 10.0 percent of soybeans of other classes.

(d) **Green soybeans.** Green soybeans shall be any soybeans which have green seed coats, and which in cross section are green, and may include not more than 10.0 percent of soybeans of other classes.

(e) **Brown soybeans.** Brown soybeans shall be any soybeans with brown seed coats, and may include not more than 10.0 percent of soybeans of other classes.

(f) **Black soybeans.** Black soybeans shall be any soybeans with black seed coats, and may include not more than 10.0 percent of soybeans of other classes.

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<sup>1</sup> The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

(g) **Mixed soybeans.** Mixed soybeans shall be any mixture of soybeans which does not meet the requirements of the classes yellow soybeans, green soybeans, brown soybeans, or black soybeans. Bicolored soybeans shall be classified as mixed soybeans.

(h) **Grades.** Grades shall be the U.S. numerical grades, U.S. Sample grade, and special grades provided for in § 26.603.

(i) **Bicolored soybeans.** Bicolored soybeans shall be any soybeans with seed coats of two colors, one of which is black or brown.

(j) **Splits.** Splits shall be pieces of soybeans that are not damaged.

(k) **Damaged kernels.** Damaged kernels shall be soybeans and pieces of soybeans which are heat-damaged, sprouted, frosted, badly ground-damaged, badly weather-damaged, moldy, diseased, stink-bug-stung, or otherwise materially damaged. Stink-bug-stung kernels shall be considered damaged kernels at the rate of one-fourth of the actual percentage of the stung kernels.

(l) **Heat-damaged kernels.** Heat-damaged kernels shall be soybeans and pieces of soybeans which are materially discolored and damaged by heat.

(m) **Foreign material.** Foreign material shall be all matter, including soybeans and pieces of soybeans, which will pass readily through an 8/64 sieve and all matter other than soybeans remaining on such sieve after sieving.

(n) **Stones.** Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

(o) **8/64 sieve.** An 8/64 sieve shall be a metal sieve 0.032 inch thick perforated with round holes 0.125 (8/64) inch in diameter with approximately 4,736 perforations per square foot.

## § 26.602 Principles governing application of standards

The following principles shall apply in the determination of the classes and grades of soybeans:

(a) **Basis of determination.** Each determination of class, splits, damaged kernels, and heat-damaged kernels, and of black, brown, and/or bicolored soybeans in Yellow or Green Soybeans, shall be upon the basis of the grain when free from foreign material. All other determinations shall be upon the basis of the grain as a whole.

(b) **Percentages.** All percentages shall be upon the basis of weight. The percentage of splits shall be expressed in terms of whole percents. All other percentages shall be expressed in terms of whole and tenths percents.

(c) **Moisture.** Moisture shall be ascertained by the air-oven method prescribed by the United States Department of Agriculture, as described in Service and Regulatory Announcement No. 147, issued by the Agricultural Marketing Service, or ascertained by any method which gives equivalent results.

(d) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the United States Department of Agriculture, as described in Circular No. 921 issued June 1953, or as determined by any method which gives equivalent results.

## § 26.603 Grades, grade requirements, and grade designations

The following grades, grade requirements, and grade designations are applicable under these standards:

### Soybeans

#### (a) Grades and grade requirements for Soybeans. (See also paragraph (c) of this section.)

Grade	Minimum test weight per bushel	Moisture	Splits	Maximum limits of—			Percent Brown, black, and/or bicolored soybeans in yellow or green soybeans	
				Damaged kernels		Foreign material		
				Total	Heat damaged			
U.S. No. 1-	56.0	Percent 13.0	Percent 10.0	Percent 2.0	Percent 0.2	Percent 1.0	Percent 1.0	
U.S. No. 2-	54.0	14.0	20.0	3.0	.5	2.0	2.0	
U.S. No. 3 <sup>1</sup>	52.0	16.0	30.0	5.0	1.0	3.0	5.0	
U.S. No. 4 <sup>2</sup>	49.0	18.0	40.0	8.0	3.0	5.0	10.0	
U.S. Sample grade							U.S. Sample grade shall be soybeans which do not meet the requirements for any of the grades from U.S. No. 1 to U.S. No. 4, inclusive; or which are musty, sour, or heating; or which have any commercially objectionable foreign odor; or which contain stones; or which are otherwise of distinctly low quality.	

<sup>1</sup> Soybeans which are purple mottled or stained shall be graded not higher than U.S. No. 3.

<sup>2</sup> Soybeans which are materially weathered shall be graded not higher than U.S. No. 4.

## Grade Designation

(b) **Grade designations for soybeans.** The grade designations for soybeans shall include in the order named, the letters "U.S." ; the number of the grade or the words "Sample grade," as the case may be; the name of the class; and the name of each applicable special grade. In the case of mixed soybeans, the grade designation shall also include, following the name of the class, the approximate percentages of yellow, green, brown, black, and bicolored soybeans in the mixture.

## Special Grades for Soybeans

(c) **Special grades, special grade requirements, and special grade designations for soybeans—(1) Garlicky soybeans** (i) **Requirements.** Garlicky soybeans shall be soybeans which contain 5 or more garlic bulblets in 1,000 grams.

(ii) **Grade designation.** Garlicky soybeans shall be graded and designated according to the grade requirements of the standards applicable to such soybeans if they were not garlicky and there shall be added to and made a part of the grade designation the word "garlicky."

(2) **Weevily soybeans—(i) Requirements.** Weevily soybeans shall be soybeans which are infested with live weevils or other live insects injurious to stored grain.

(ii) **Grade designation.** Weevily soybeans shall be graded and designated according to the grade requirements of the standards applicable to such soybeans if they were not weevily, and there shall be added to and made a part of the grade designation the word "weevily."

## Interpretations [Added]

### § 26.901 Interpretation with respect to the term "distinctly low quality"

The term "distinctly low quality," when used in the United States Standards for Grain, shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.

**§ 26.902 Interpretation with respect to the term  
“purple mottled or stained”**

The term “purple mottled or stained,” when used in the United States Standards for Soybeans (see § 26.603(a)) shall be construed to include soybeans which are discolored by the growth of a fungus; or by dirt; or by a dirtlike substance including nontoxic inoculants; or by other nontoxic substances.

**§ 26.903 Interpretation with respect to the term  
“bicolored soybeans”**

The term “bicolored soybeans,” when used in the United States Standards for Soybeans (see § 26.601(i)), shall be construed to include any soybeans with seedcoats of two colors, one of which is black or brown, when the black and/or brown color covers 50 percent or more of the seedcoat. The hilum of a soybean shall not be considered a part of the seedcoat.

# UNITED STATES STANDARDS FOR MIXED GRAIN<sup>1</sup>

## § 26.451 Terms defined

For the purposes of the United States Standards for Mixed Grain:

(a) **Mixed grain.** Mixed grain shall be any mixture of grains for which standards have been established under the United States Grain Standards Act, or any mixture of such grains and wild oats, or wild oats, provided that such mixture does not come within the requirements of any of the standards for such grains, and that such mixture or wild oats does not contain more than 50 percent of foreign material.

(b) **Grades.** Grades shall be "U.S. Mixed Grain," "U.S. No. 1 Mixed Feed Oats," "U.S. No. 2 Mixed Feed Oats," "U.S. Sample grade Mixed Grain," and special grades provided for in § 26.453.

(c) **Wild oats.** Wild oats shall be the seeds of *Avena fatua* and *A. sterilis*.

(d) **Cultivated oats.** Cultivated oats shall be the seeds of *Avena sativa* and *A. byzantina*.

(e) **Mixed feed oats.** Mixed feed oats shall be any Mixed Grain which contains not less than 75 percent of wild oats, or not less than 75 percent of wild oats and cultivated oats in combination, which combination shall include more than 25.0 percent of wild oats; and which contains not more than 7.0 percent of foreign material, not more than 15.0 percent of damaged kernels, and not more than 3.0 percent of heat-damaged kernels; and which has a test weight per bushel of not less than 29 pounds.

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<sup>1</sup>The specifications of these standards shall not excuse failure to comply with the provisions of the Federal Food, Drug, and Cosmetic Act.

(f) **Foreign material.** Foreign material shall be all matter except wild oats and grains for which standards have been established under the United States Grain Standards Act.

(g) **Damaged kernels.** Damaged kernels shall be all kernels and pieces of kernels of wild oats and grains for which standards have been established under the United States Grain Standards Act, which are heat damaged, sprouted, frosted, badly ground damaged, badly weather damaged, moldy, diseased, or otherwise materially damaged.

(h) **Heat-damaged kernels.** Heat-damaged kernels shall be kernels and pieces of kernels of wild oats and grains for which standards have been established under the United States Grain Standards Act, which have been materially discolored and damaged by heat.

(i) **Stones.** Stones shall be concreted earthy or mineral matter and other substances of similar hardness that do not disintegrate readily in water.

## § 26.452 Principles governing application of standards

The following principles shall apply in the determination of the grades for mixed grain:

(a) **Basis of determination.** All determinations shall be on the basis of the grain as a whole.

(b) **Percentages.** All percentages shall be determined upon the basis of weight. The percentage of each kind of grain, including wild oats, and foreign material shall be stated in terms of whole percents.

(c) **Moisture.** Moisture shall be determined by the air-oven method prescribed by the United States Department of Agriculture as described in Service and Regulatory Announcement No. 147 (1959 revision) issued by the Agricultural Marketing Service for the kind of grain which predominates in the mixture or determined by any method which gives equivalent results.

(d) **Test weight per bushel.** Test weight per bushel shall be the weight per Winchester bushel as determined by the method prescribed by the United States Department of Agriculture as described in Circular No. 921, issued June 1953, or as determined by any method which gives equivalent results.

## § 26.453 Grades, grade requirements, and grade designations

The following grades, grade requirements, and grade designations are applicable under these standards:

(a) **Grades and grade requirements for U.S. Mixed Grain.** (See also paragraph (c) of this section.)

(1) **U.S. Mixed Grain (Grade).** The grade "U.S. Mixed Grain" shall be mixed grain with not more than 15.0 percent of damaged kernels, and not more than 3.0 percent of heat-damaged kernels, and which otherwise does not meet the requirements for mixed feed oats, or the requirements for the grade "U.S. Sample grade Mixed Grain."

(2) **U.S. No. 1 Mixed Feed Oats.** The grade U.S. No. 1 Mixed Feed Oats shall be mixed grain which meets the requirements for mixed feed oats; which contains not more than 5.0 percent of foreign material, not more than 10.0 percent of damaged kernels, and not more than 2.0 percent of heat-damaged kernels; which has a test weight per bushel of not less than 32 pounds; and which otherwise does not meet the requirements for the grades U.S. Mixed Grain, U.S. No. 2 Mixed Feed Oats, or U.S. Sample grade Mixed Grain.

(3) **U.S. No. 2 Mixed Feed Oats.** The grade U.S. No. 2 Mixed Feed Oats shall be mixed grain which meets the requirements for mixed feed oats; which contains not more than 7.0 percent of foreign material, not more than 15.0 percent of damaged kernels, and not more than 3.0 percent of heat-damaged kernels; which has a test weight per bushel of not less than 29 pounds; and which otherwise does not meet the requirements for the grades U.S. Mixed Grain, U.S. No. 1 Mixed Feed Oats, or U.S. Sample grade Mixed Grain.

(4) **U.S. Sample grade Mixed Grain.** The grade "U.S. Sample grade Mixed Grain" shall be mixed grain which does not meet the requirements for mixed feed oats, or the requirements for the grade U.S. Mixed Grain; or which contains more than 16.0 percent of moisture; or which contains stones; or which is musty, or sour, or heating; or which has any commercially objectionable foreign odor, except of smut or garlic; or which is otherwise of distinctly low quality.

## Grade Designations

(b) **Grade designations for U.S. Mixed Grain.** The grade designation for mixed grain shall include the words "U.S. Mixed Grain," "U.S. No. 1 Mixed Feed Oats," "U.S. No. 2 Mixed Feed Oats," or "U.S. Sample grade Mixed Grain," as the case may be, and the name of each applicable special grade. In the case of the grades "U.S. Mixed Grain" and "U.S. Sample grade Mixed Grain" the grade designation shall also include the name and approximate percentage of each kind of grain, including wild oats, which constitutes 10.0 percent or more of the mixture, in the order of predominance and, when applicable, the words "other grains" followed by a statement of the percentage of the combined quantity of those kinds of grains, including wild oats, each of which is present in a quantity less than 10.0 percent; and the words "Foreign Material" together with a statement of the percentage thereof.

## Special Grades for Mixed Grain

(c) **Special grades, special grade requirements and special grade designations for mixed grain—(1) Tough mixed grain—(i) Requirements.** Tough mixed grain shall be mixed grain which contains more than 14.0 percent but not more than 16.0 percent of moisture.

(ii) **Grade designation.** Tough mixed grain shall be graded according to the grade requirements of the standards applicable to such mixed grain if it were not tough, and there shall be added to and made a part of the grade designation the word "Tough."

(2) **Smutty mixed grain—(i) Requirements.** Smutty mixed grain shall be (a) mixed grain in which wheat or rye predominates, and which contains balls, portions of balls, or spores, of smut, in excess of a quantity equal to 14 balls of average size in 250 grams of mixed grain, or (b) any other mixed grain which has the kernels covered with smut spores, or which contains smut masses and/or smut balls in excess of 0.2 percent.

(ii) **Grade designation.** Smutty mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not smutty, and there shall be added to and made a part of the grade designation, the word "Smutty."

(3) **Ergoty mixed grain—(i) Requirements.** Ergoty mixed grain shall be mixed grain which contains ergot in excess of 0.3 percent.

(ii) **Grade designation.** Ergoty mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not ergoty, and there shall be added to and made a part of the grade designation, the word "Ergoty."

(4) **Garlicky mixed grain—(i) Requirements.** Garlicky mixed grain shall be (a) mixed grain in which wheat or rye predominates, and which contains 2 or more green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 1,000 grams of mixed grain; or (b) mixed grain in which grains other than wheat and rye predominate, and which contains 4 or more green garlic bulblets, or an equivalent quantity of dry or partly dry bulblets, in 500 grams of mixed grain.

(ii) **Grade designation.** Garlicky mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not garlicky, and there shall be added to and made a part of the grade designation, the word "Garlicky."

(5) **Weevily mixed grain—(i) Requirements.** Weevily mixed grain shall be mixed grain which is infested with live weevils or other insects injurious to stored grain.

(ii) **Grade designation.** Weevily mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not weevily, and there shall be added to and made a part of the grade designation, the word "Weevily."

(6) **Blighted mixed grain—(i) Requirements.** Blighted mixed grain shall be mixed grain in which barley predominates and which, as a whole, contains more than 4.0 percent of barley damaged or materially discolored by blight and/or mold.

(ii) **Grade designation.** Blighted mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not blighted, and there shall be added to and made a part of the grade designation, the word "Blighted."

(7) **Treated mixed grain—(i) Requirements.** Treated mixed grain shall be mixed grain which has been scoured, limed, washed, sulfured, or treated in such a manner that its true quality is not reflected by the grade designation "U.S. Mixed Grain," "U.S. No. 1 Mixed Feed Oats," "U.S. No. 2 Mixed Feed Oats," or "U.S. Sample grade Mixed Grain."

(ii) **Grade designation.** Treated mixed grain shall be graded and designated according to the grade requirements of the standards applicable to such mixed grain if it were not treated, and there shall be added to and made a part of the grade designation, a statement indicating the kind of treatment.

#### Interpretations [Added]

### § 26.901 Interpretation with respect to the term "distinctly low quality"

The term "distinctly low quality," when used in the United States Standards for Grain, shall be construed to include grain which contains more than two crotalaria seeds (*Crotalaria spp.*) in 1,000 grams of grain.



